

A photograph of the Longfellow Bridge in Boston, Massachusetts, spanning the Charles River. The bridge is a multi-arched stone structure with a pedestrian walkway on top featuring ornate metal railings and black lampposts. Several people are visible walking on the bridge. In the background, the Boston skyline is visible across the water, including the dome of the Massachusetts State House. The sky is blue with scattered white clouds.

Rehabilitation and Restoration of the Longfellow Bridge

Public Information Meeting
May 24, 2006

Longfellow Project Team

- Massachusetts Highway Department
- Department of Conservation and Recreation
- MBTA
- Jacobs Team



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Public Information Meeting

- Introduction
- Purpose and Need of the Project
- Overall Project Schedule
- Outline Preliminary Design Progress
- Public Involvement Process

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Purpose and Need of the Project

- Structural Rehabilitation
- Architectural Rehabilitation
- Improve Connections
- Environmental Compliance



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Overall Project Schedule

- Preliminary Design Complete December 2006
- ENF Process July/August 2006
- Design Public Hearing December 2006
- Final Design 2007 through 2008
- Construction 2009 through 2013

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Storrow Drive Project Coordination

- MassHighway / DCR Coordination
- Schedule Coordination
- Ongoing Public Review Process



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Historic Character

- Completed 1907
- National Register of Historic Places
- Charles River Basin Historic District
- Comprehensive Section 106 Review Process



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Brief History of the Bridge

- Construction 1907
- Rapid Transit 1912
- Charles MGH Station 1932
- Charles River Esplanade 1934
- Storrow Drive 1949
- Memorial Drive 1956
- Bridge Rehabilitation 1959



Goals for Preliminary Design

- Investigate How to Restore Bridge to Former Glory
- Develop Rehabilitation / Restoration Alternatives
- Design Sensitive Historically/ Architecturally
- Minimize Disruption During Construction
- Solicit Input from Interested Parties



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Work Completed To Date

- Survey
- Geotechnical Program
- Structural Inspection
 - Masonry Piers
 - Steel Superstructure
- Other Field Investigations
- Initial Design Studies



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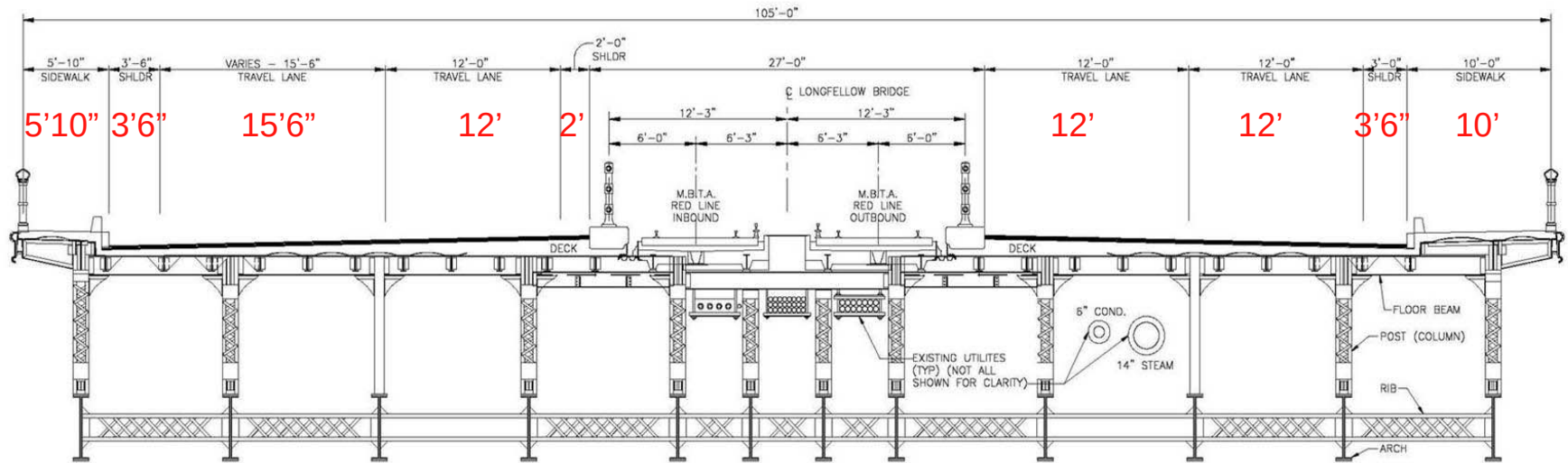
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Progress on Initial Design Studies

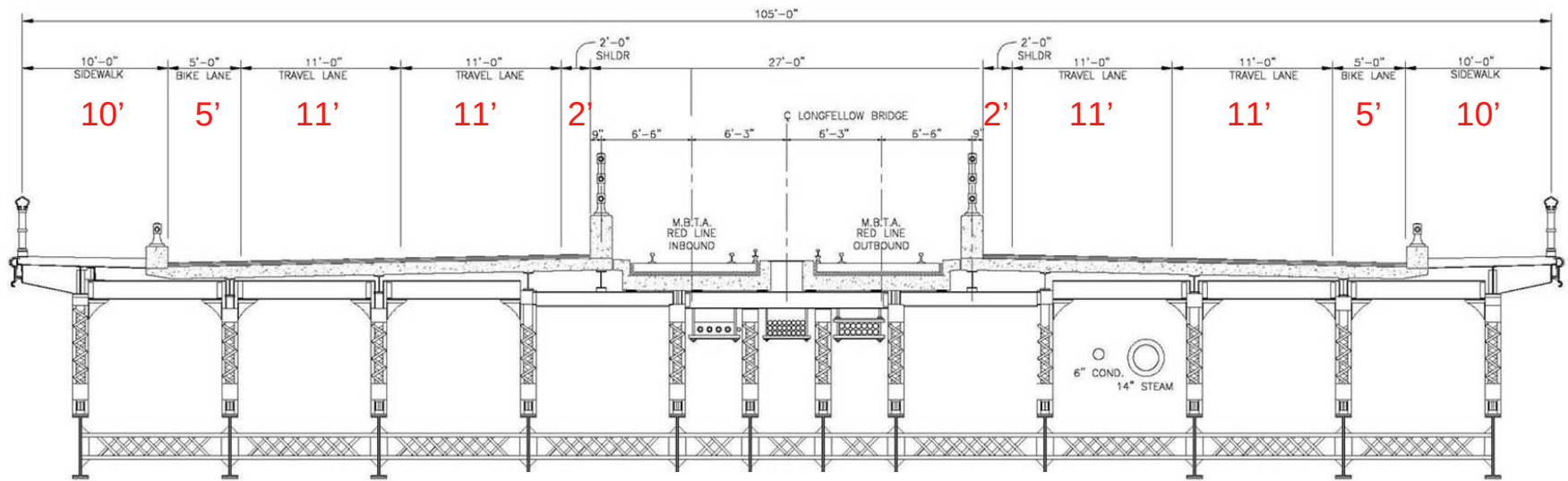
- Typical Cross Section
- Construction Staging
 - Maintenance of Red Line Service
 - Maintenance of Traffic
- Tower Masonry Repairs
- Connections to City Streets
- Parkland Interface
- Architectural Issues



Typical Bridge Cross Section



Existing Cross Section



Recommended Cross Section

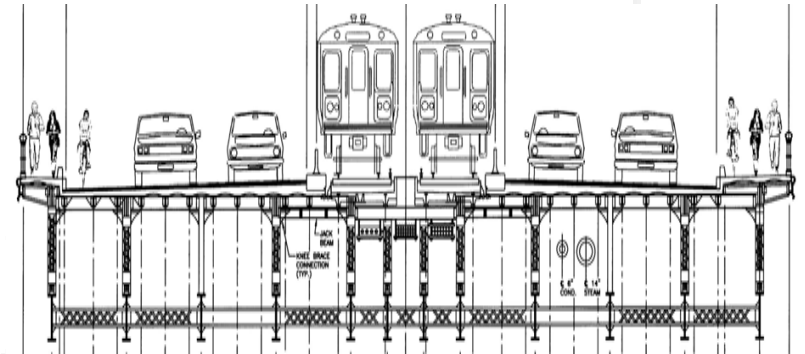


Minimize Disruption During Construction

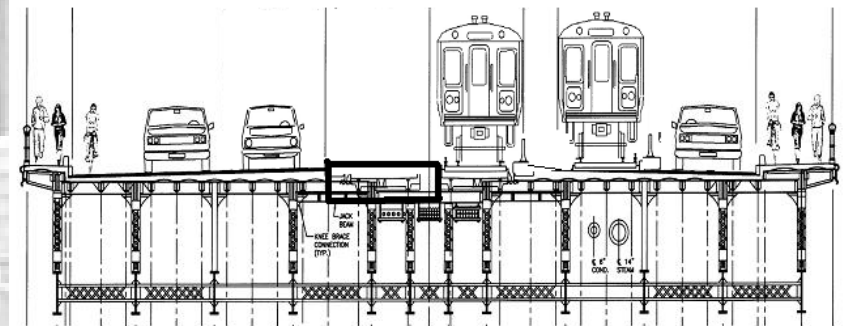
- Maintain Red Line Service
 - Night-time / Weekend Service Interruptions
- Maintain Vehicular Access
 - at Least One Traffic Lane in Each Direction
- Minimize Traffic Queuing at Charles Circle
- Maintain Pedestrian / Bike Access

Maintenance of Red Line Operations

Alternative 1 - T Roadway Detour (Shoofly)



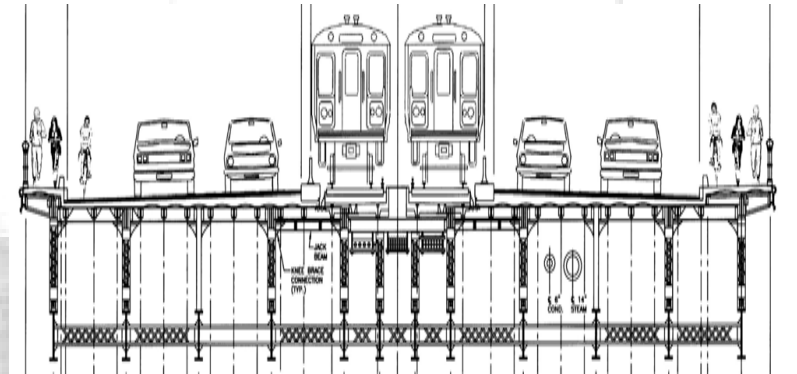
Normal Conditions



With Roadway Detour

Maintenance of Red Line Operations

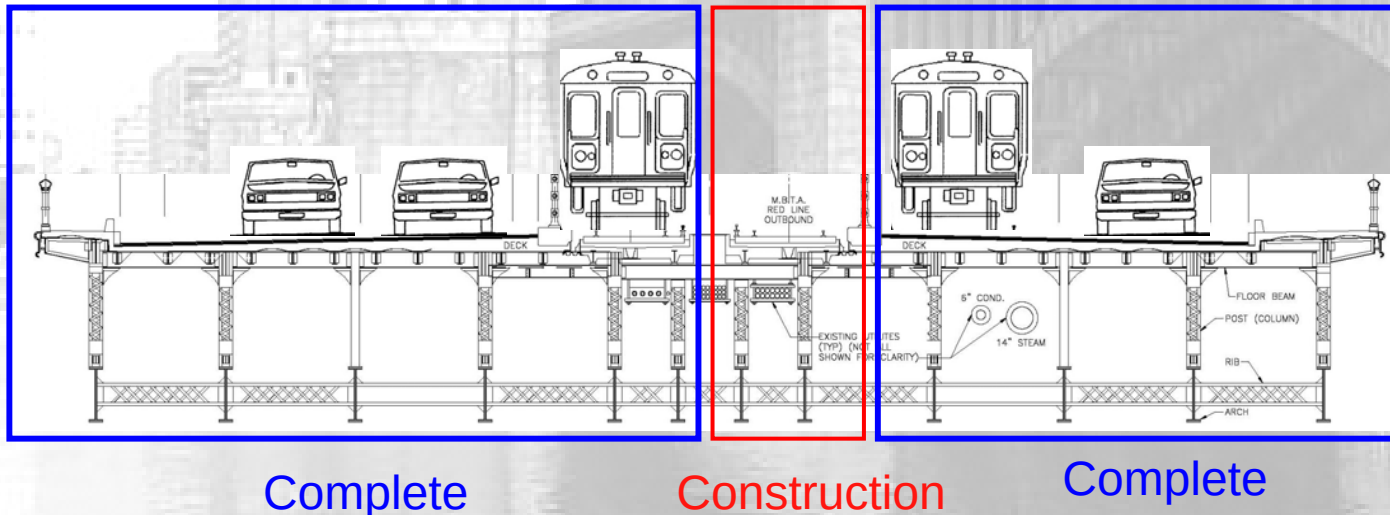
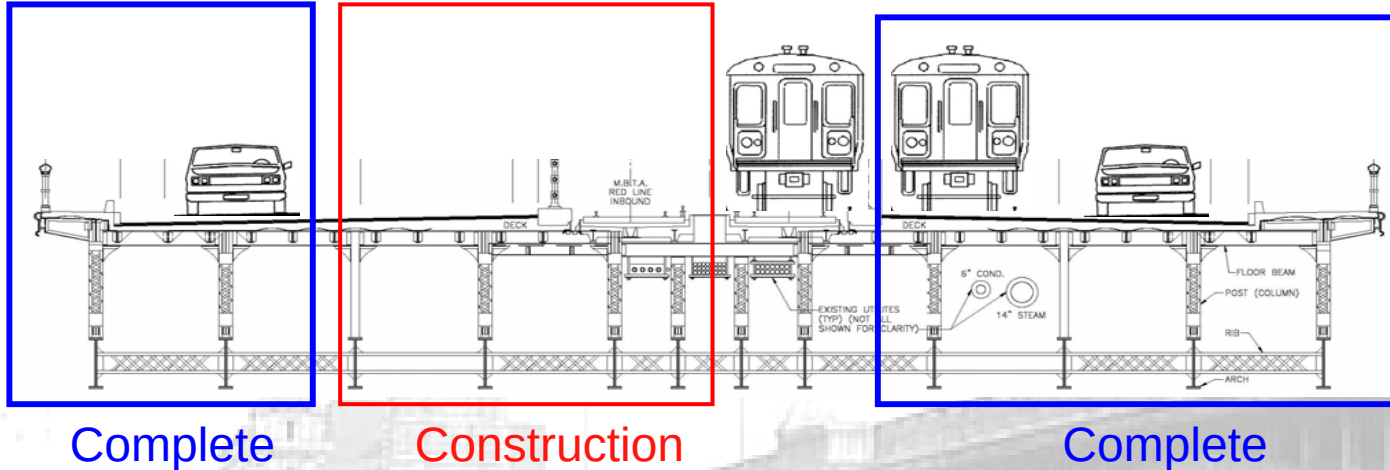
Alternative 2 - In-Place “Rapid” Construction



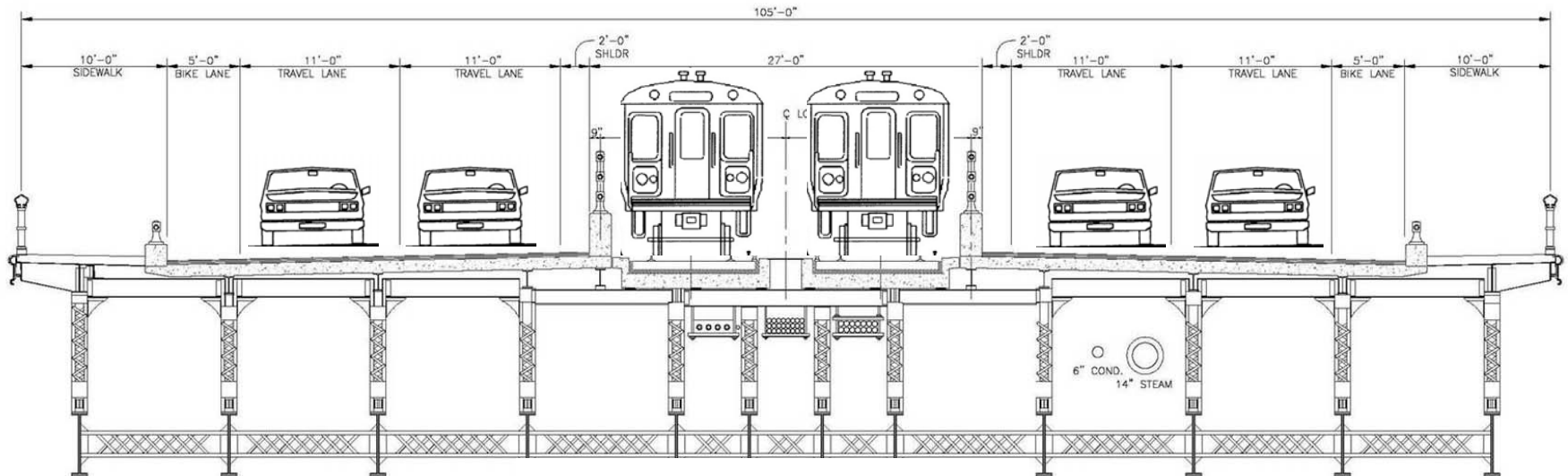
Comparison Of Red Line Alternatives

- MBTA Roadway Detour (Shoo-fly)
 - Rehabilitated Structure can Support Trains
 - Transition Zone at Charles MGH – (In-Place)
 - Approx. 20 weekend MBTA shutdowns
- In-Place Construction (Rapid)
 - Over 100 Weekend MBTA shutdowns
 - Almost every weekend for over 2 years
 - 2-3 times more Expensive than Roadway Detour
 - Longer Construction Schedule

Construction Staging – Example



Construction Complete



Finished Cross Section

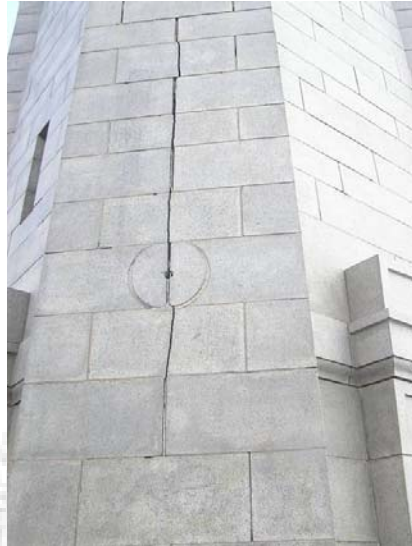
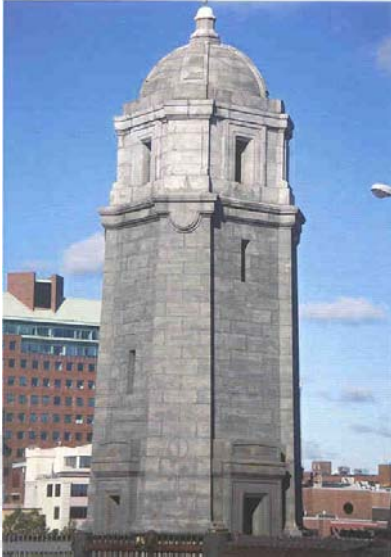
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Masonry Tower Repairs



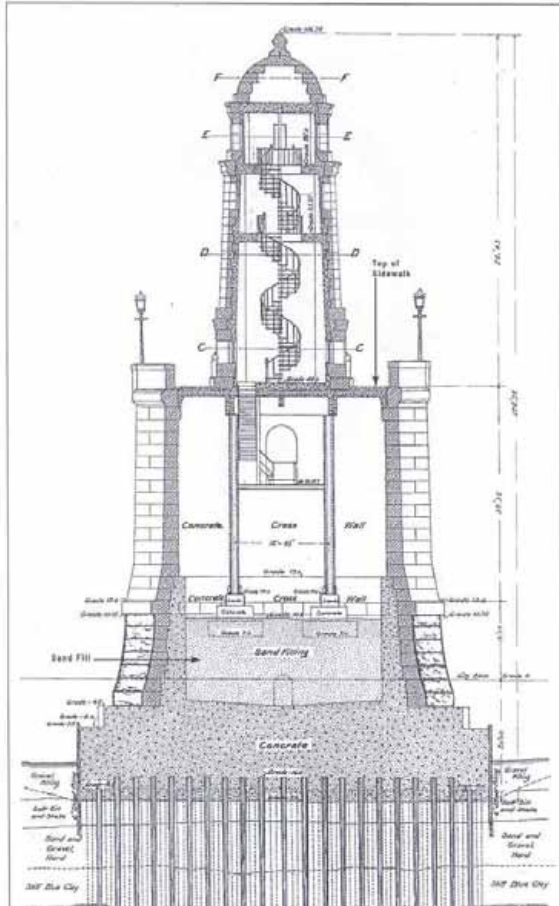
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Tower Repair Alternatives



3 Repair Options

1. Dismantle and Re-build
2. Repair in Place
3. Partial Dismantle/Re-build

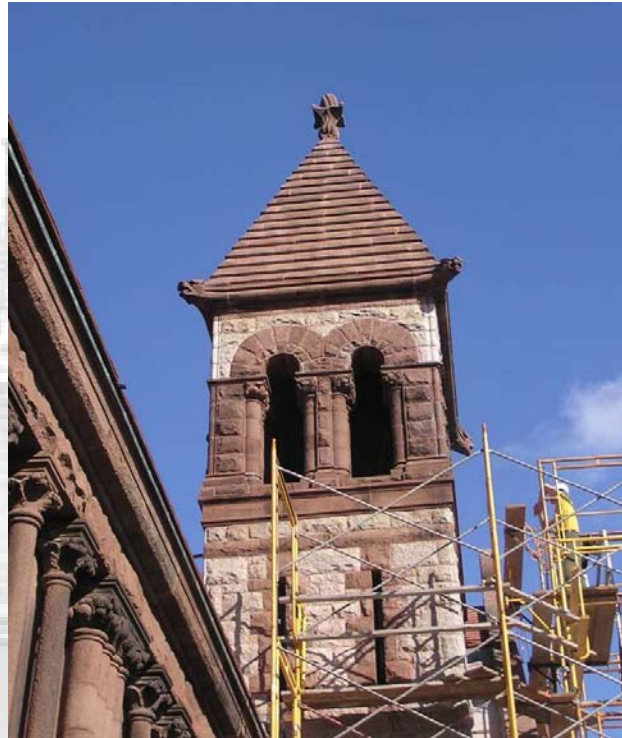
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Tower Repair Recommended Alternative



Option 1: Dismantle and Re-build

- Fixes Problems
- Restores Original
- Similar Cost
- Quality of Repair
- Future Performance

Ames Library, Easton MA

Connections to City Streets

- **Cambridge Approaches**
 - Minor Modification / Landscaping
- **Boston Approaches**
 - Earlier Modifications - Insensitive Design
 - Constriction from MBTA Station Extension
- **Three Alternatives Developed**
 - Re-establish a Continuous Pedestrian Connection
 - Provide ADA Accessible Routes
 - Improve the Visual Connection Of The Bridge To City Streets
 - Enhance the Safety And Comfort Of Pedestrians And Bicyclists

Boston Approach - Downstream



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Boston Approach Upstream Pinch Point



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Photo - Visualization

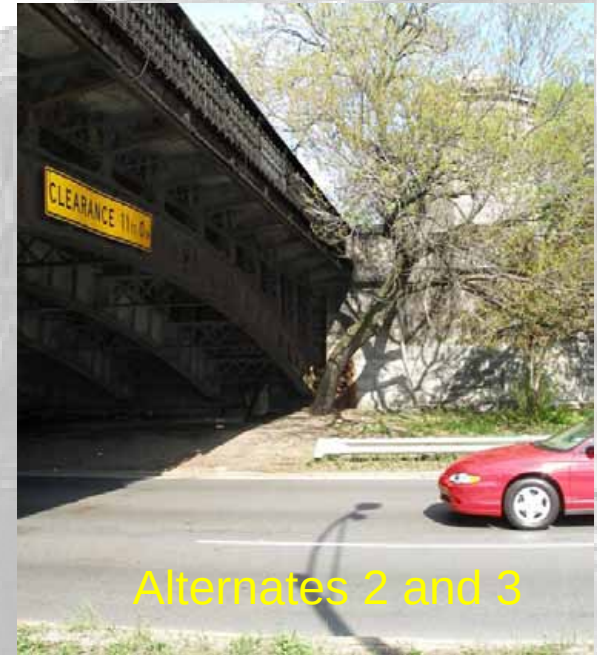
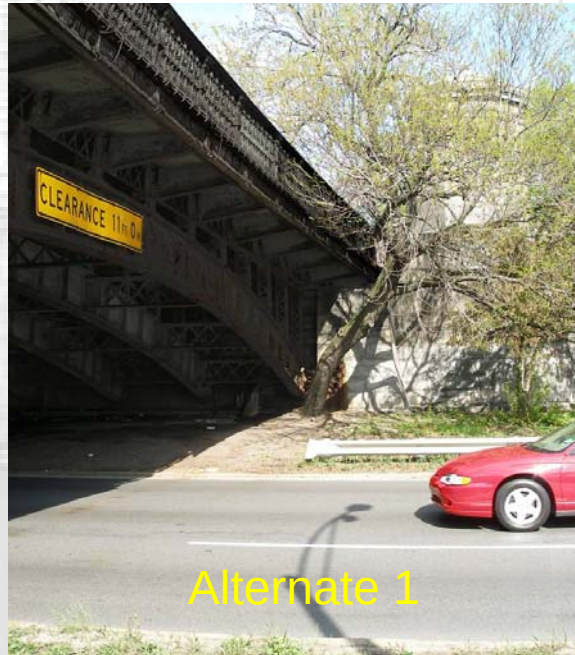
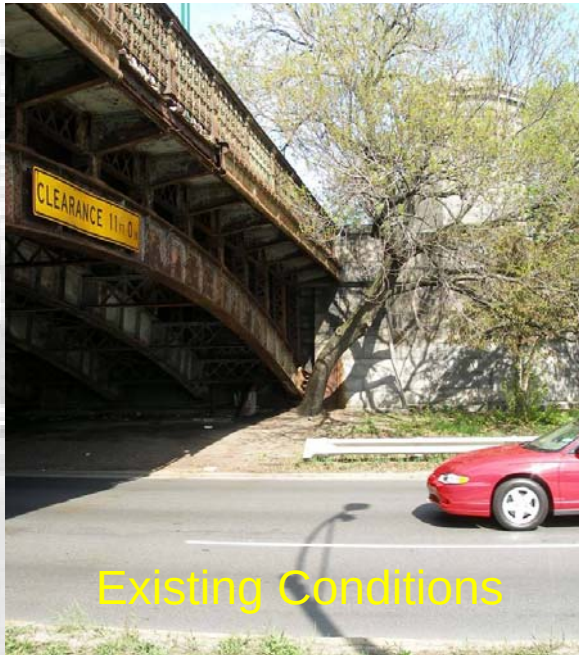
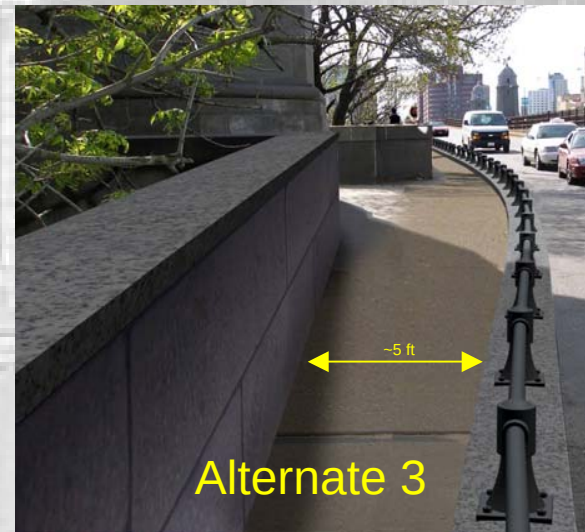
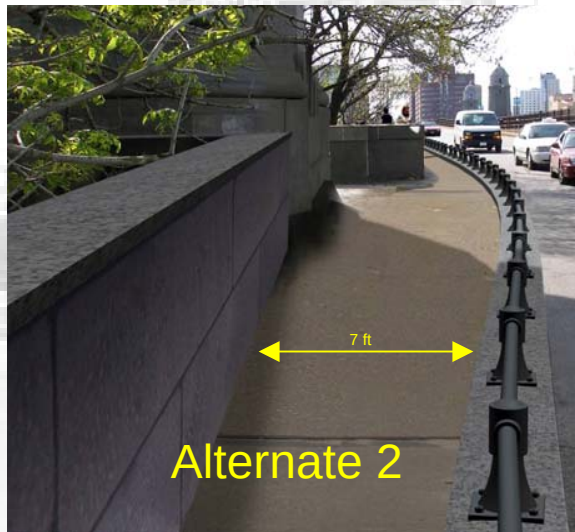
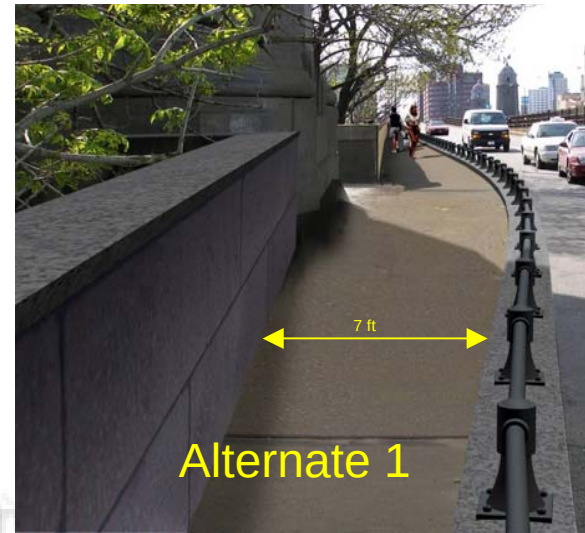


Photo - Visualization

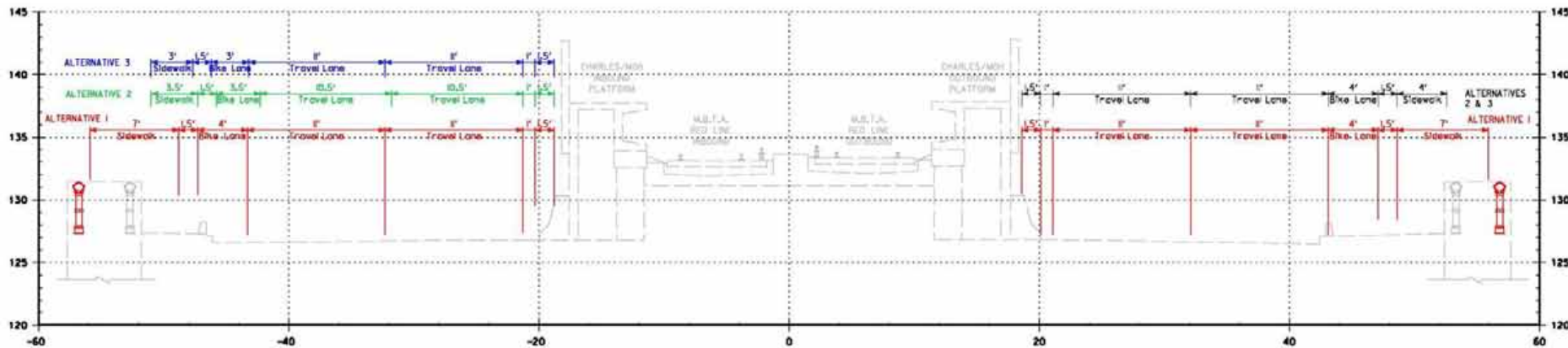


Retaining Wall Visualization



Comparison of Alternatives

At Pinch Point



Roadway Element	Existing	ALT 1	ALT 2	ALT 3	MassHighway Desirable
MBTA Barrier Offset	1'	1'	1'	1'	2'
Left Roadway Lane	10'	11'	10.5'	11'	12'
Right Roadway Lane	10.5'	11'	10.5'	11'	12'
Bike Lane	3.8'	4'	3.5'	3'	5'
Sidewalk Barrier	1.5'	1.5'	1.5'	1.5'	1.5'
Sidewalk	4.3'	7'	3.5'	3'	5'



Boston Approach

- Recommended - Alternative 1
 - Fix Problems from Earlier Bridge Modifications
 - Architecturally Sensitive Design
 - Approaches Mass Highway Roadway Geometry Standards
 - Best for Pedestrians and Cyclists
 - Maintains Current Traffic Capacity
- What do You Think?



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Esplanade Interface – Historic View



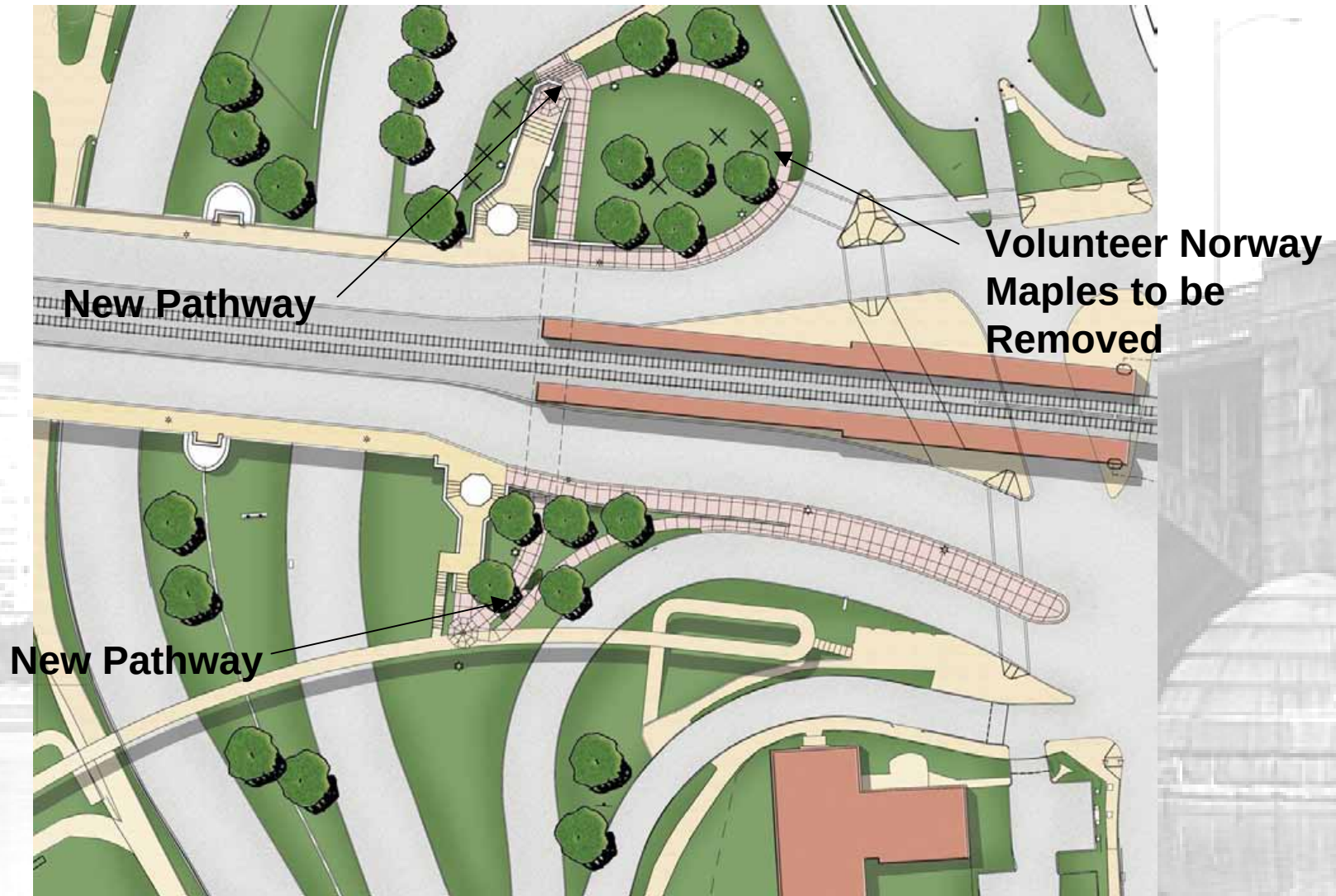
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Boston – Esplanade Interface



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Cambridge Approaches Existing Conditions



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Cambridge Approach



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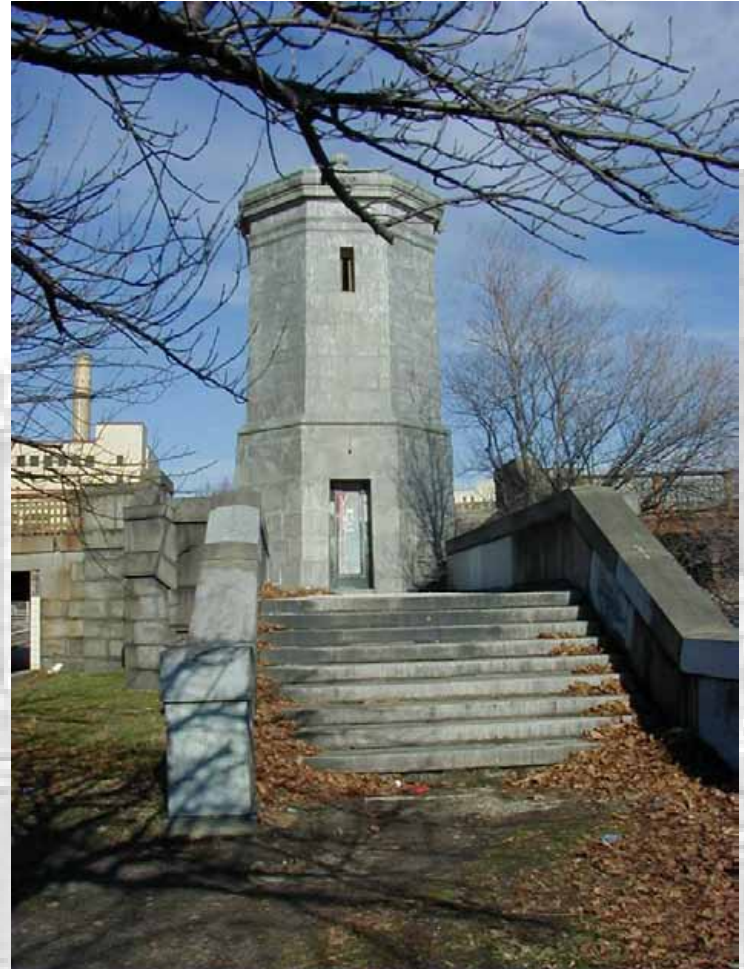


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Secretary Of The Interior Standards For Rehabilitation

- Preserve Historic Use
- Retain and Preserve Historic Character
- Bridge as a Physical record of its Time, Place, and Use
- Preserve Changes to the Bridge with Acquired Historic Significance
- Preserve Distinctive Materials, Finishes, and/or Construction Techniques
- Repair (rather than Replace) Deteriorated Historic Features
- Avoid Chemical or Physical Treatments that Cause Damage to Historic Materials
- New Additions and Exterior Alterations shall be Differentiated but Compatible with Old Features, while not Destroying Historic Features, Materials, and Spatial Relationships



Aesthetic Issues Concerning Bridge Restoration

- Superstructure Design
- Substructure Design
- Deck Design
- Sidewalks
- Railings and Fences
- Lighting
- Signage
- Color and Finishes



Superstructure Design



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Arch Bracing Details

HISTORIC DETAILS



MODIFIED DETAILS



Substructure/Tower Design



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Deck Design



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Railings, Fences And Lighting

**Historic
Pedestrian Railing**



MBTA Fence



Other Pedestrian Railings



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Railing Between Sidewalk And Roadway



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Existing Lighting



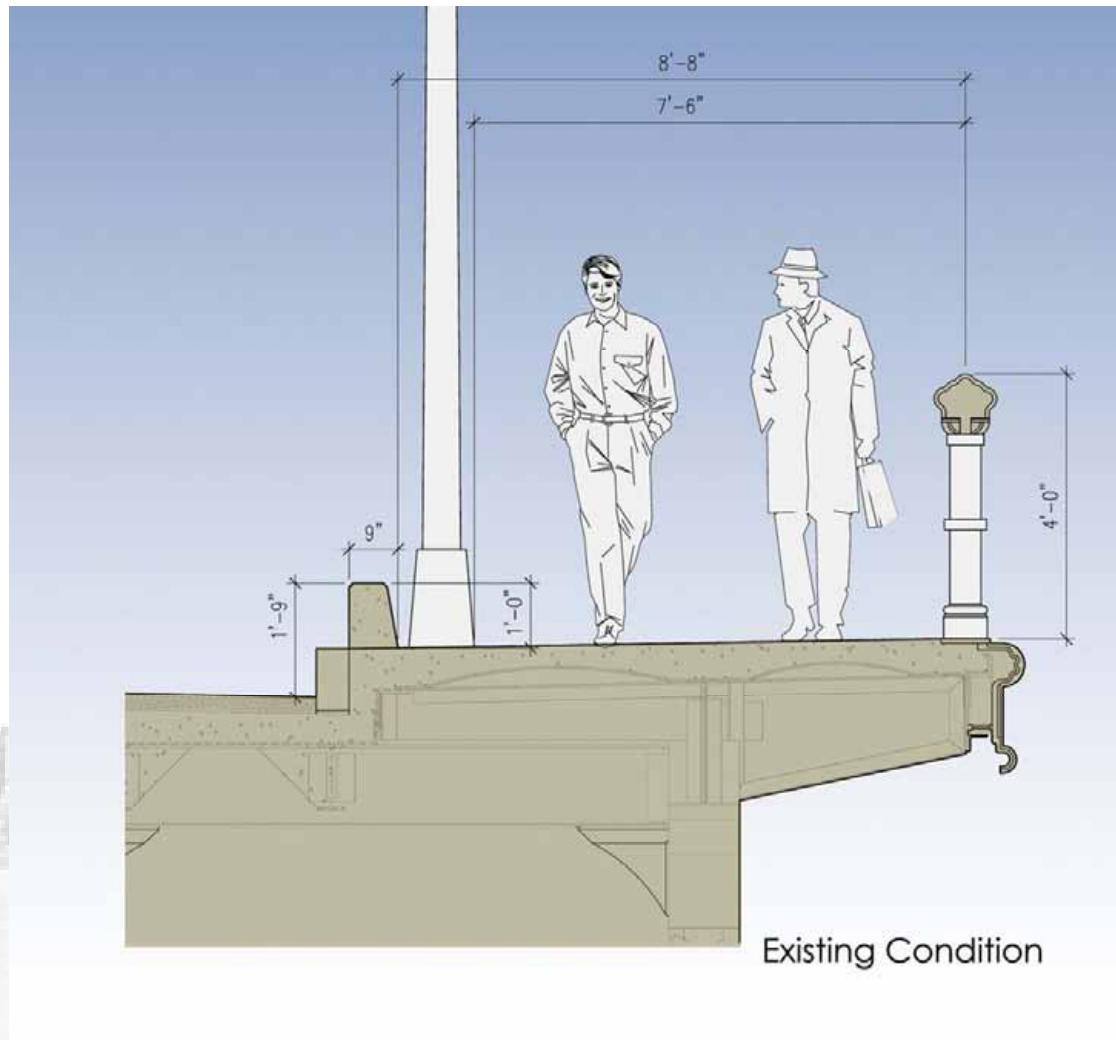
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Existing Sidewalk



Existing Sidewalk



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Historic Condition



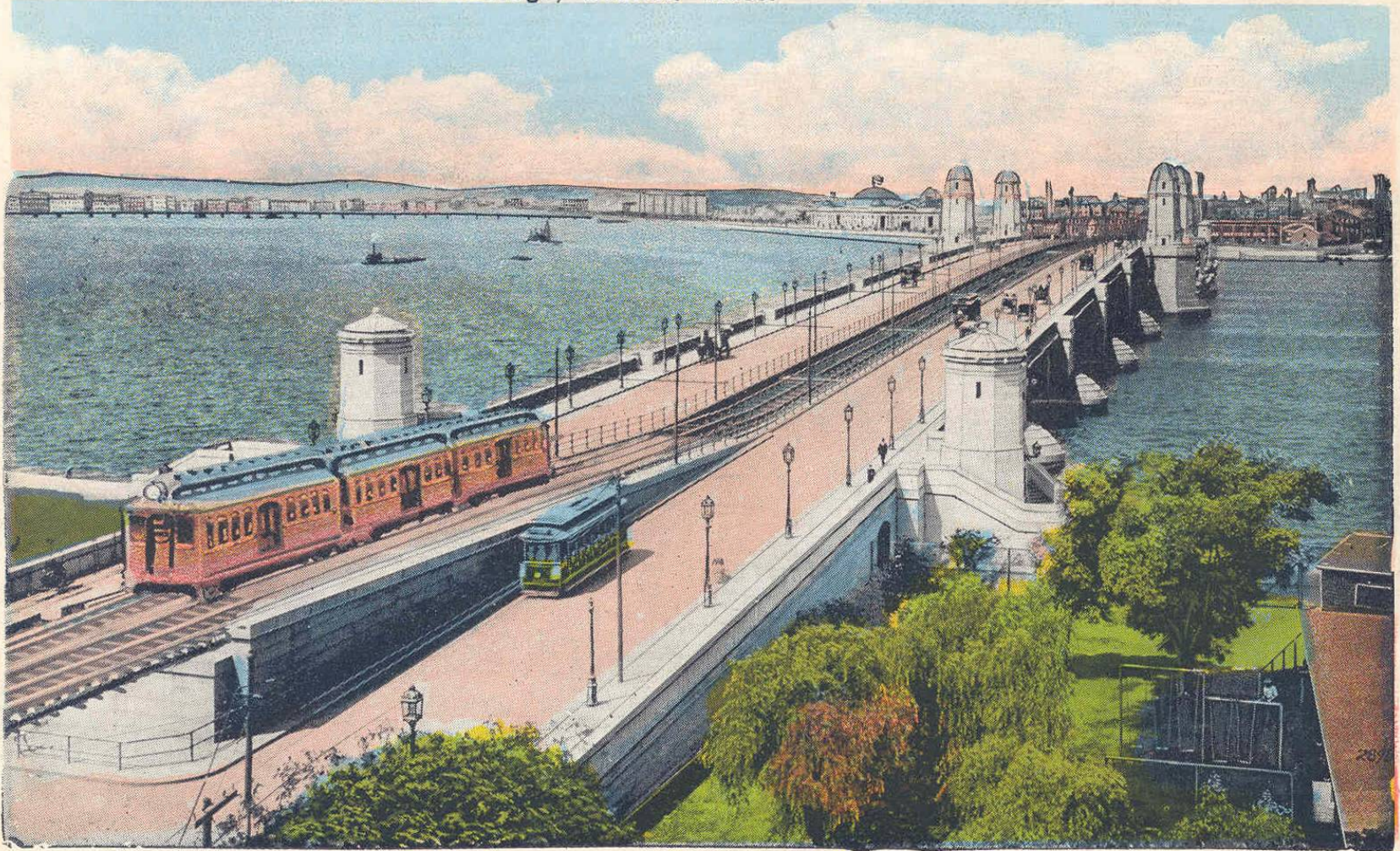
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West Boston Bridge, Boston. Mass.



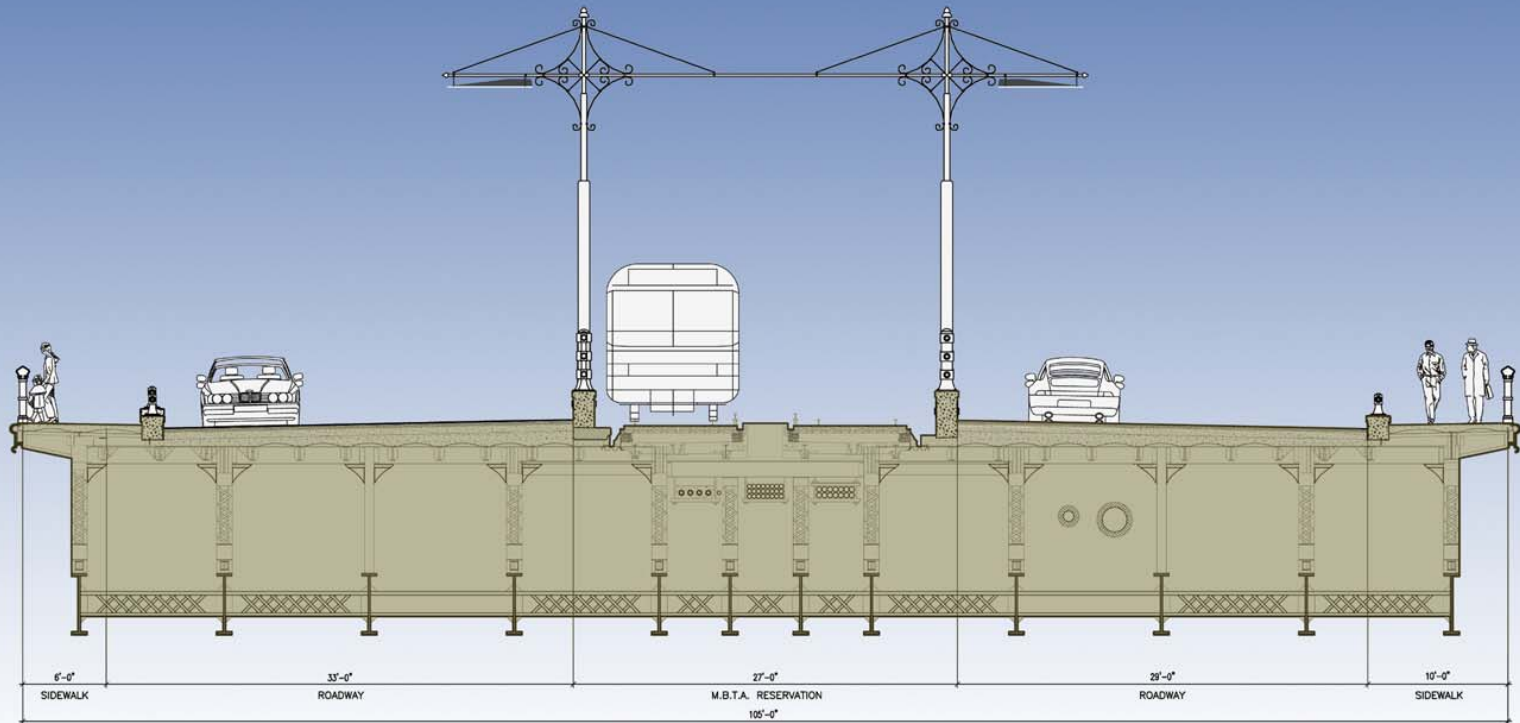
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Roadway Lighting



Option-1A

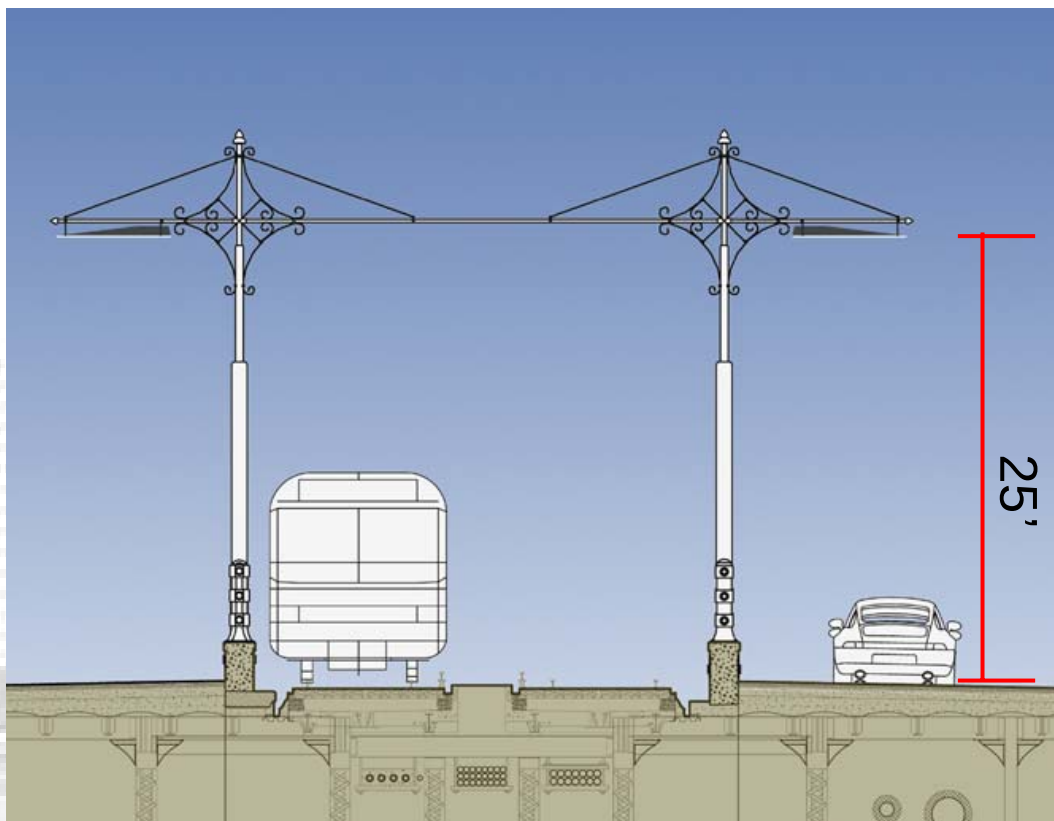
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Roadway Lighting



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Roadway Lighting



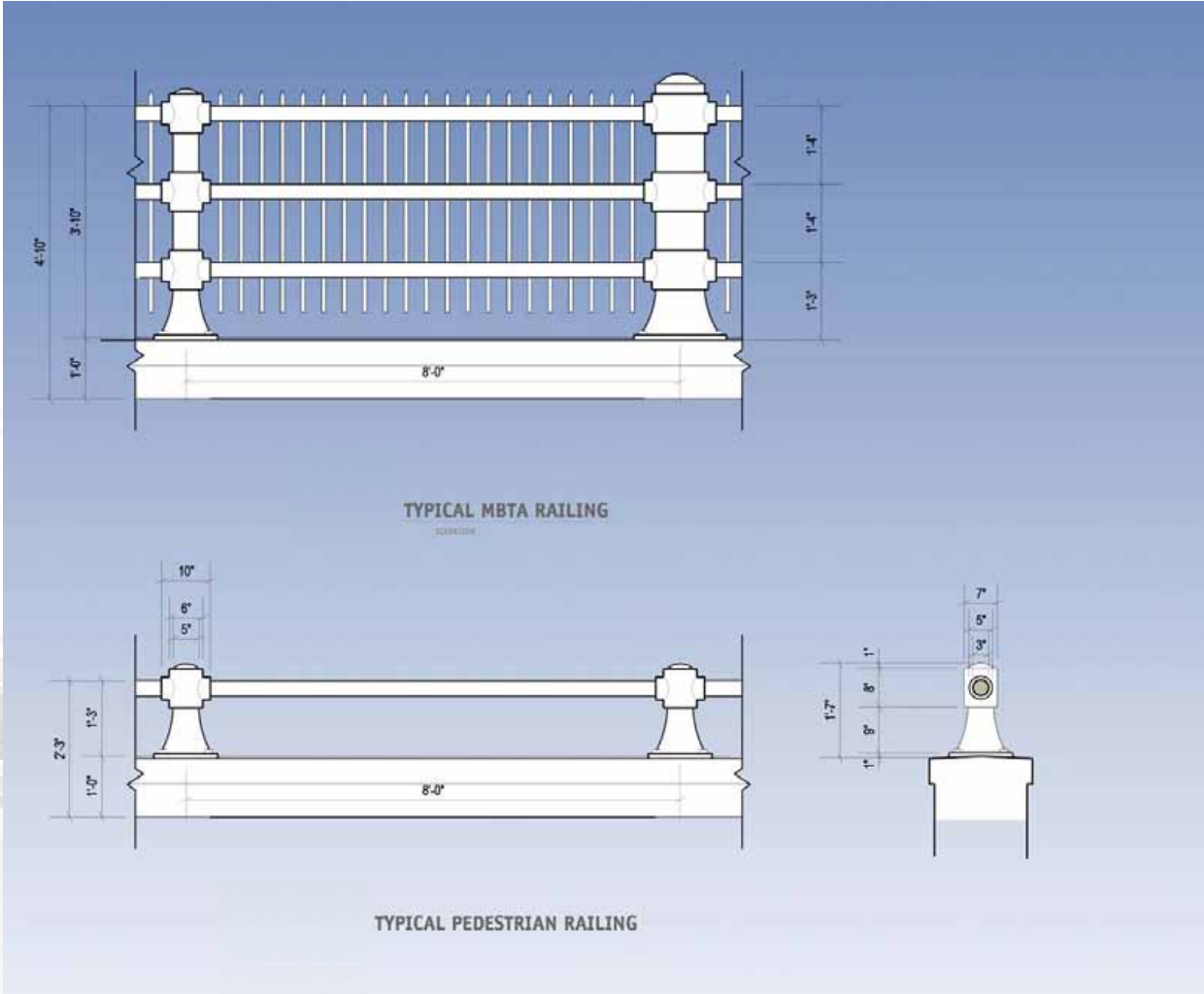
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MBTA And Roadway Railings

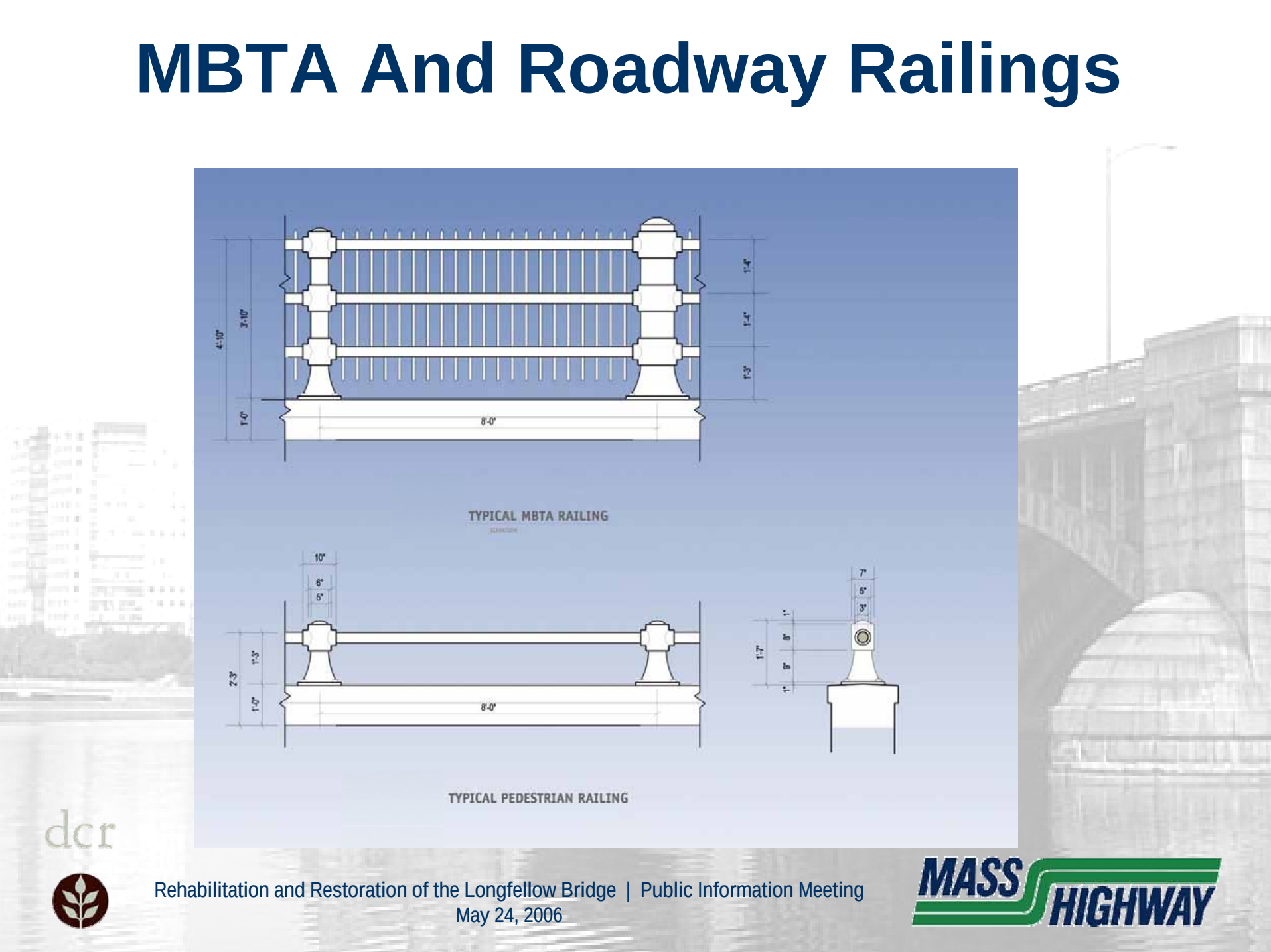


The image contains two technical drawings of railings. The top drawing is labeled 'TYPICAL MBTA RAILING' and shows a side elevation of a railing with three horizontal rails and vertical balusters. Dimensions include a total height of 4'-10", a top rail height of 3'-10", a base height of 1'-0", and a base width of 8'-0". The bottom drawing is labeled 'TYPICAL PEDESTRIAN RAILING' and shows a side elevation of a railing with a single horizontal rail and vertical balusters. Dimensions include a total height of 2'-3", a top rail height of 1'-3", a base height of 1'-0", and a base width of 8'-0". A detail view of the railing post is also shown on the right side of the bottom drawing.

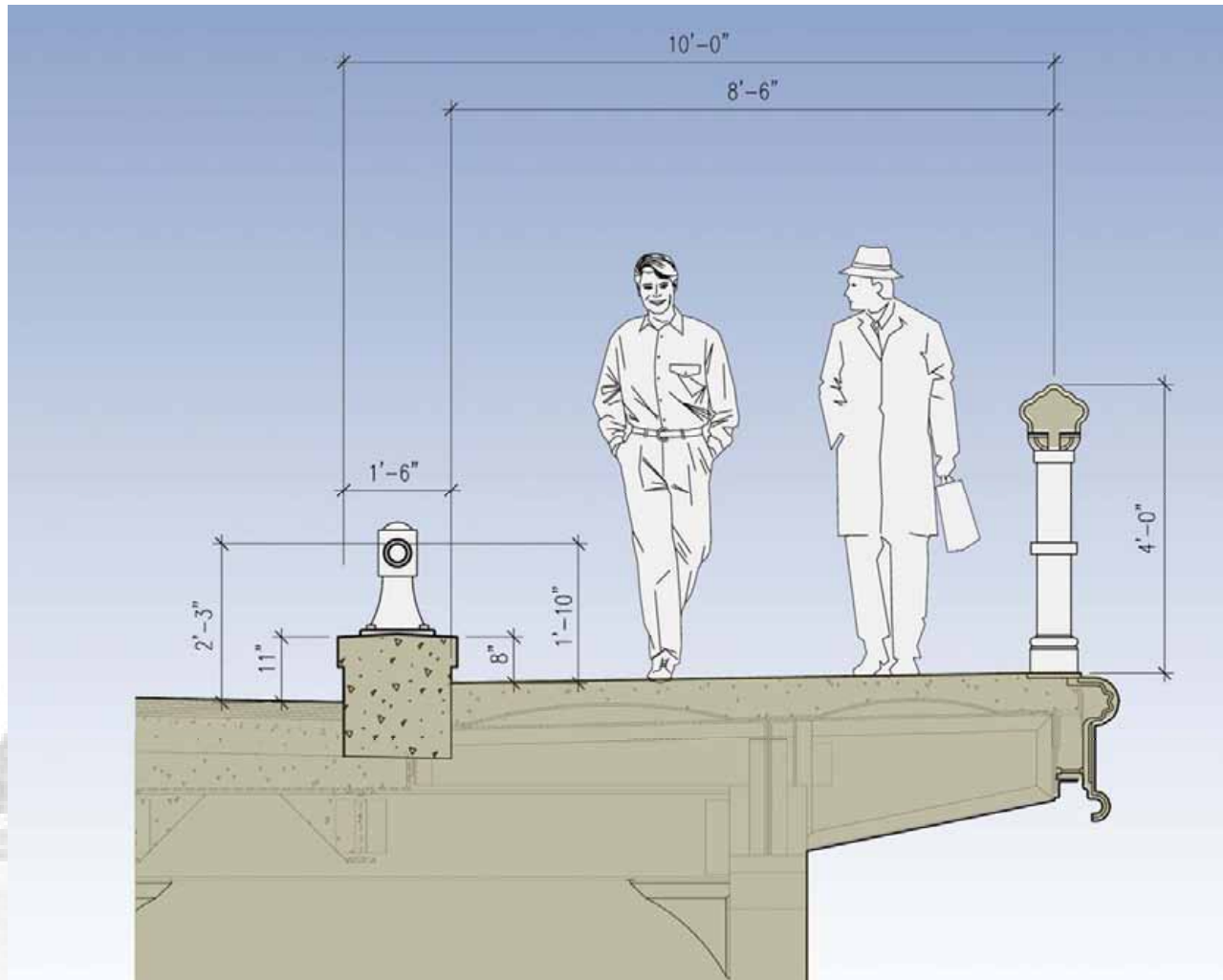
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Open Barrier



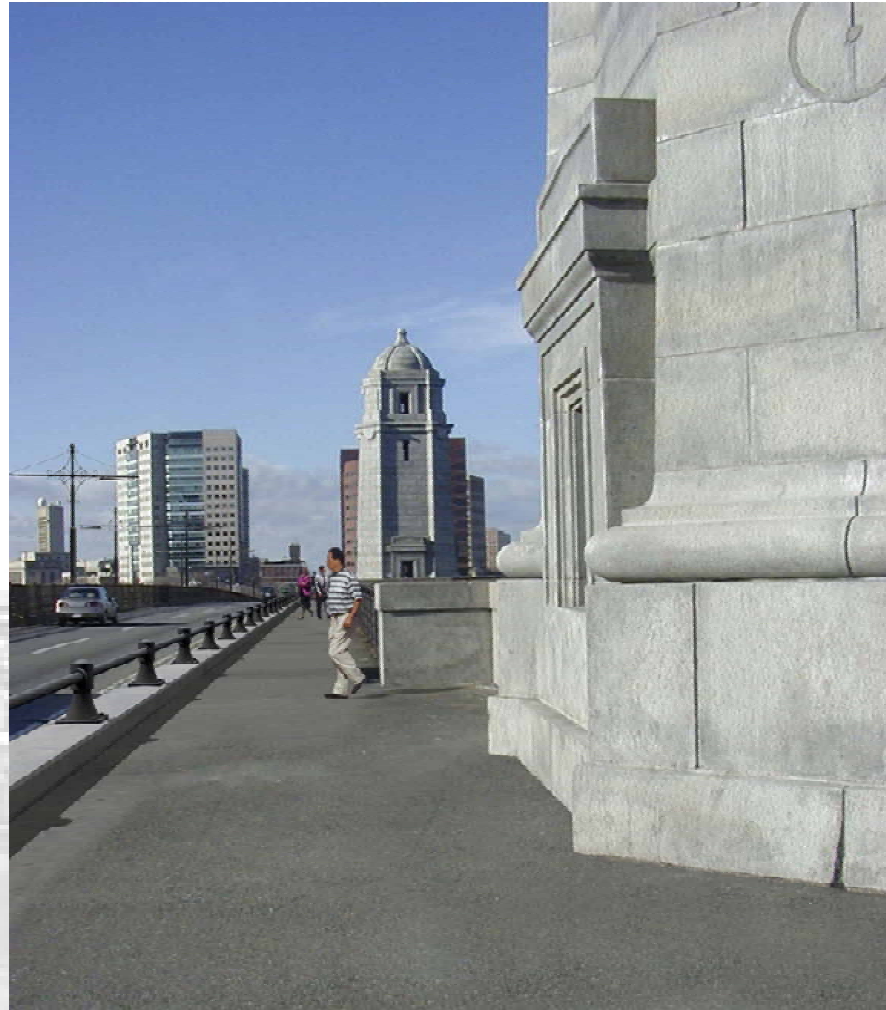
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Photo-Visualization



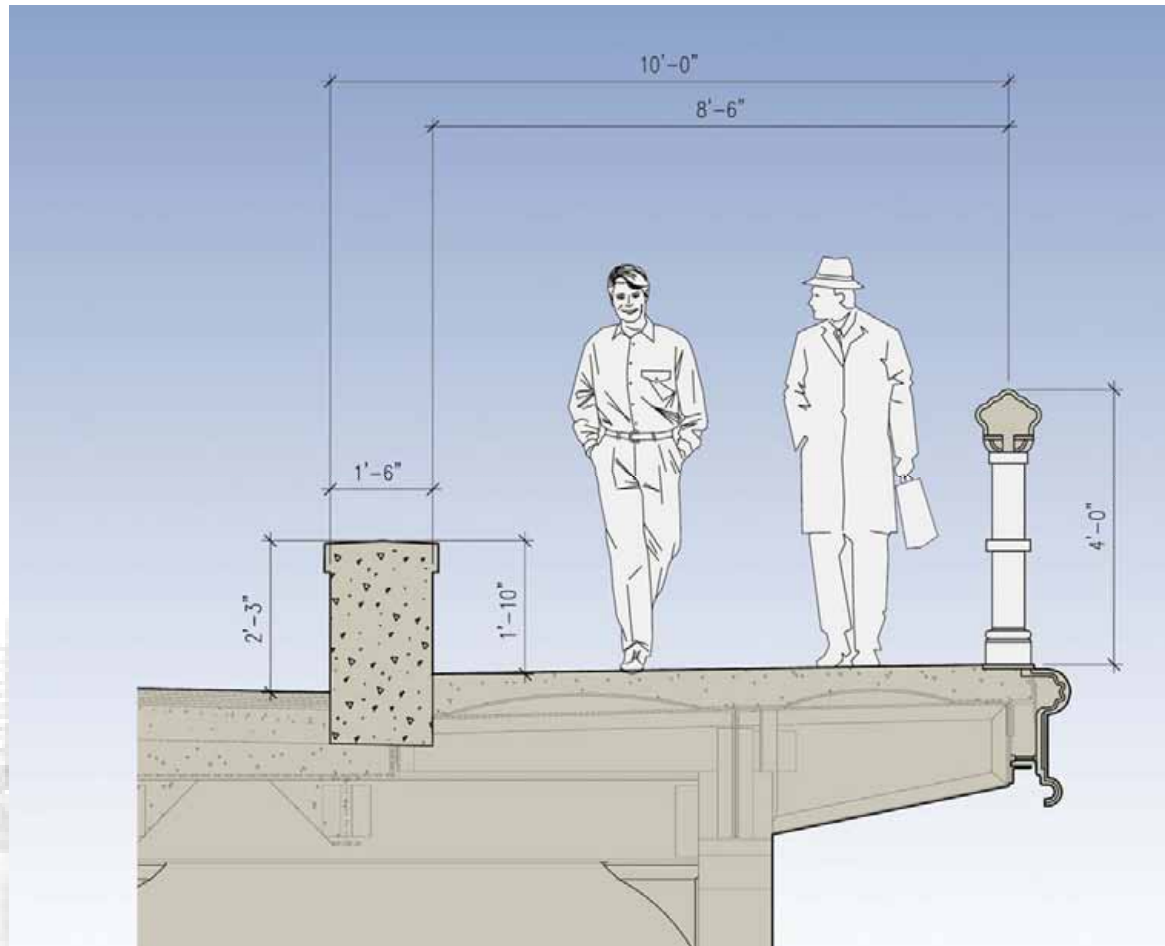
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Solid Barrier



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Photo-Visualization



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Bridge Aesthetic Lighting

EXISTING CONDITION



LIGHTING CONCEPT



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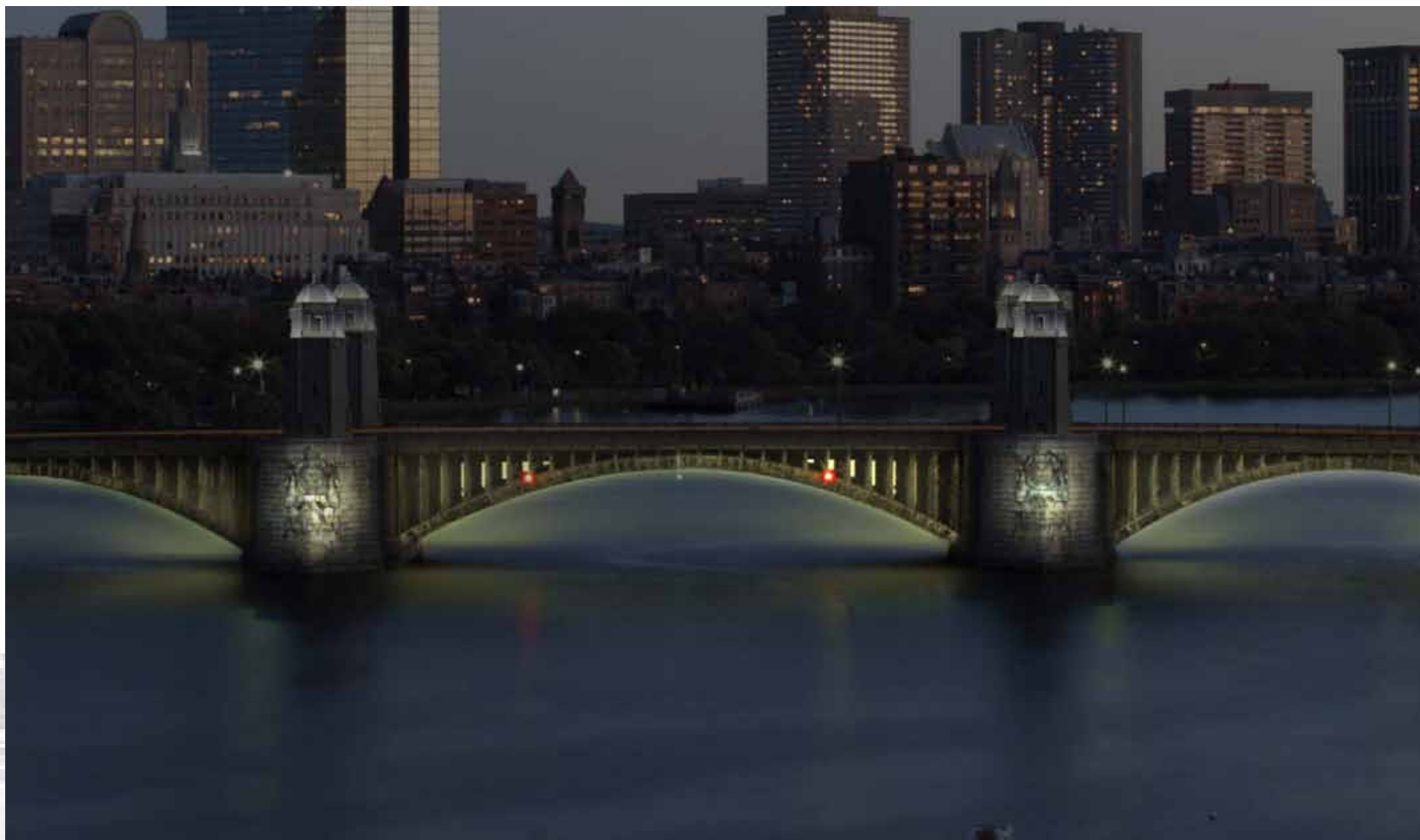


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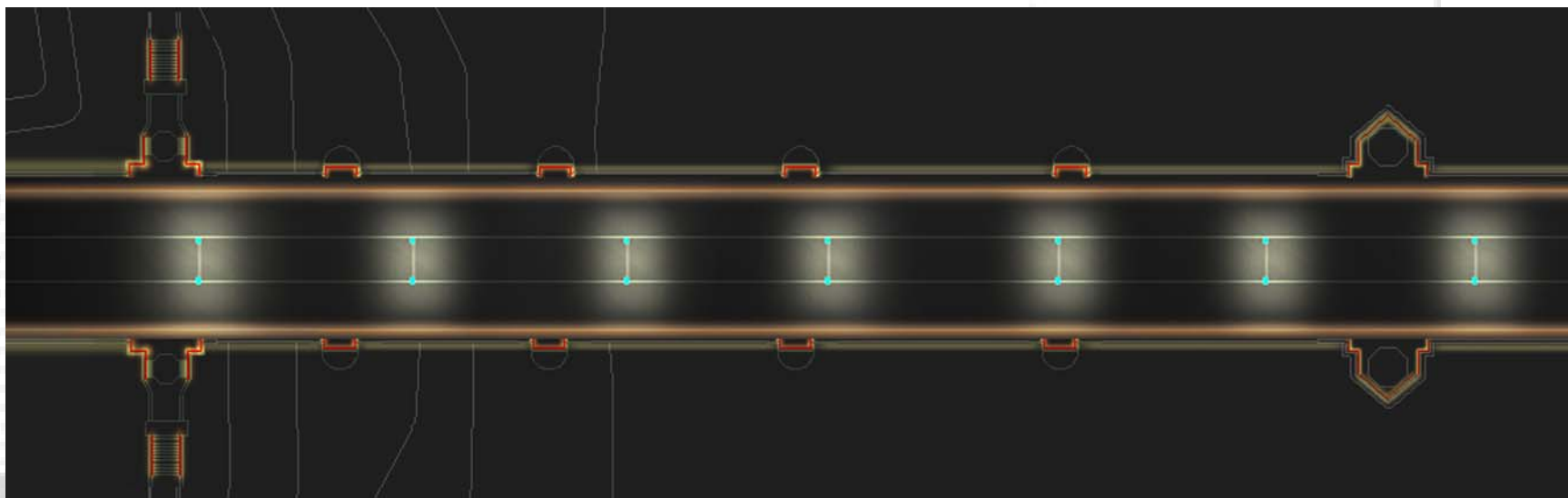
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Aesthetic Lighting Plan



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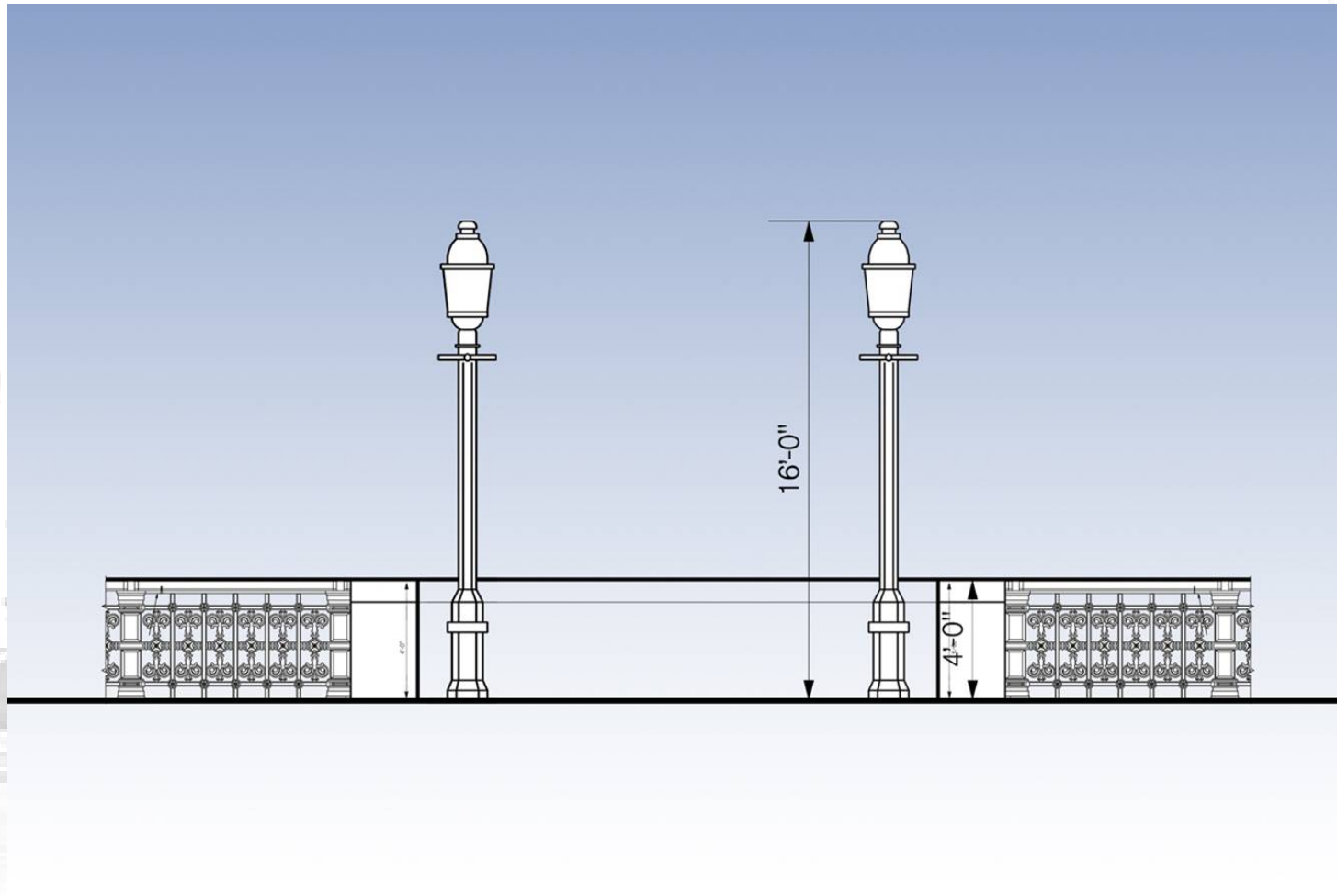
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Bridge Niche Lighting



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Color And Finishes



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Color Of Railings, Arches, and Other Metal Elements



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Public Involvement Goals and Objectives

- Develop on-going two-way dialog
- Transparent and responsive process
- Provide and Gather Information
- Consider Input
- Respond to Questions
- Address Concerns



Public Involvement Process

- Environmental Notification Form
 - July/August 2006
- Design Public Hearing
 - December 2006
- Public Meetings
- Community Meetings
- Fact Sheets
- Response to Comments Documents
- Website

COMMONWEALTH OF MASSACHUSETTS
MASSACHUSETTS HIGHWAY DEPARTMENT
RESTORATION OF THE LONGFELLOW BRIDGE OVER CHARLES RIVER
TRANSPORTATION IMPROVEMENT PROJECT
BOSTON/CAMBRIDGE, MASSACHUSETTS

This sheet is provided for your comments.
Your input is solicited and appreciated.

Please return your sheet, with comments, to a staff member at the meeting, or mail to John A. Blundo, P.E., Chief Engineer, Massachusetts Highway Department, 10 Park Plaza, Boston, Massachusetts 02116.

The final date for receipt of written statements and exhibits will be ten (10) days after the Public Information Meeting.

NAME _____ ADDRESS _____
TITLE _____ ORGANIZATION _____

Project Contact Information

www.mhd.state.ma.us/LongfellowBridge

Massachusetts Highway Department

10 Park Plaza

Boston MA 02116

Attn: John Blundo, Chief Engineer

Regina Villa Associates

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Thank You



Questions and Answers

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